Headquarters Enterprise Messaging Initiative (HEMI)

Architectural Overview

High-Level Technical Requirements

➢ Integrated E-mail and Calendar service

➢ Support for 4000 users

➢ Server based mail stores

- 100 mailboxes at 1GB
- 300 mailboxes at 500MB
- 3600 mailboxes at 100MB

➢ PDA support (BlackBerry/Treo*)

➢ Secure Instant Messaging

➢ Secure File Sharing

➢ Secure Remote Access from anywhere

* Treo currently in pilot mode at HQ.

The NASA / SAIC ISEM / SAIC UNITeS / LMIT ODIN Team

High-Level HEMI Architecture

➢ Centralized Services provided by the NASA Data Center (NDC)

  • Application Service Provider model

  • 2 NDC locations providing services

➢ Center based account management

➢ Microsoft based solution

  • Exchange 2003

  • SharePoint 2003

  • Live Communication Server 2003

  • Active Directory

 • BlackBerry Enterprise Server

  • GoodLink Server

High-Level HEMI Systems Location

Hosted at NDC@JSC:

• Primary Exchange (E-mail/ Calendaring) and BlackBerry servers for HQ

• NDC and HQ Domain Controllers

• Backup GoodLink services

Hosted at NDC@MSFC:

• Backup Exchange (E-mail) and BlackBerry services

• Primary SharePoint services (document sharing)

• Primary Live Communications Server (LCS) services

• JSC and HQ Domain Controllers

• Primary GoodLink services (Palm/PocketPC services)
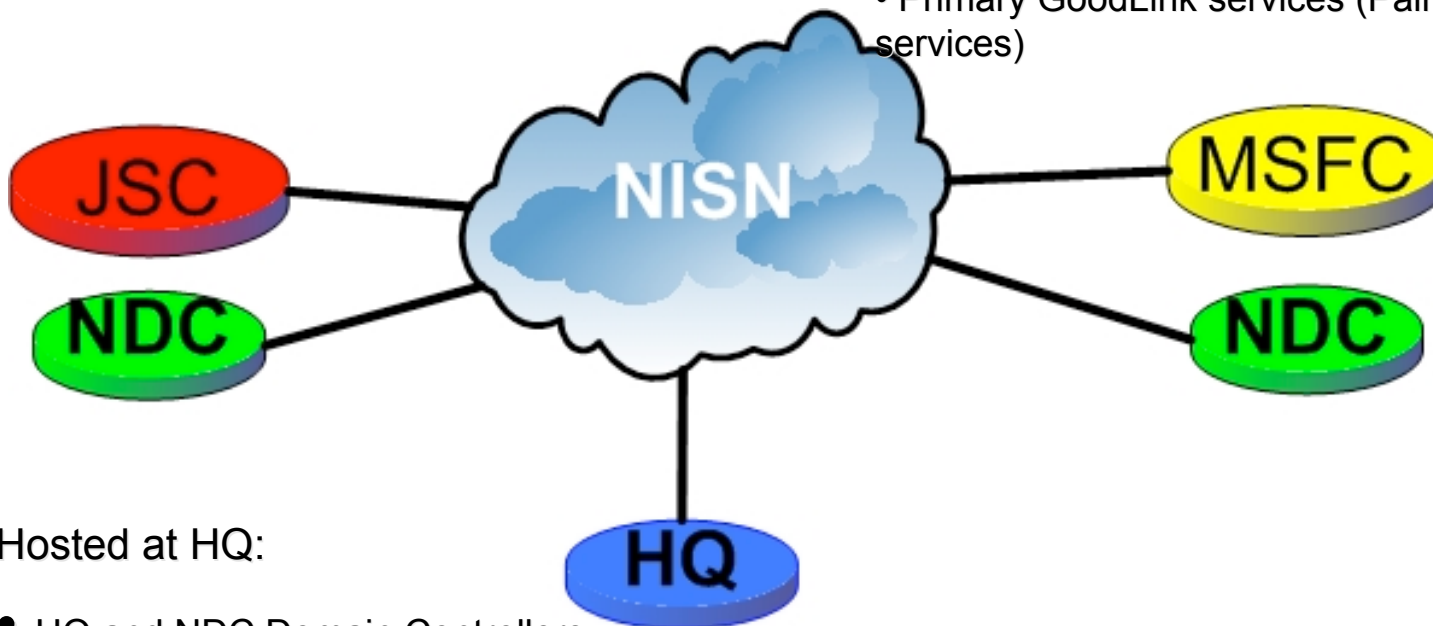
Hosted at HQ:

• HQ and NDC Domain Controllers

Expected Service Availability

- ➢ NISN WAN   99.5%
- ➢ Active Directory   99.99%
- ➢ Exchange   99.99%
- ➢ SharePoint   99.9%
- ➢ Live Communication Server   99.0%

NISN WAN

- ➢ All WAN connectivity provided through NISN
- ➢ Redundant OC-3 circuits at HQ
  - Primary goes directly to NDC@JSC
  - Alternate circuit goes through GSFC
  - Automatic failover

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Active Directory

➢ Currently the NDC Active Directory has over 70,000 objects including a user or a contact for every NASA Civil Servant and contractor in the X.500 directory

➢ Active Directory is populated via the OneNASA database and X.500 using Microsoft Identity Integration Server

- This provides the directory data for the Global Address List and all deliverable E-mail addresses
- The Sun Identity Manager (through NISE) will eventually be the owner of all identities in the environment

Exchange Server 2003 Overview

- ➢ Supported E-mail clients include:
  - ❖ Microsoft Outlook 2003 for the PC
  - ❖ Microsoft Entourage 2004 for the Macintosh
  - ❖ Outlook Web Access
  - ❖ Any IMAP/S and SMTPS/AUTH client for E-mail only
- ➢ The Exchange Architecture is scaled to support the following at NDC@JSC for HEMI:
  - ❖ 100 1GB mailboxes
  - ❖ 300 500MB mailboxes
  - ❖ 3600 100MB mailboxes
- ➢ Complete Anti-Virus and Anti-Spam capability
  - • User ability to control their Anti-SPAM Quarantine

Wireless Device Support

- ➢ BlackBerry Enterprise Server
  - Full support for BlackBerries using the BlackBerry Enterprise Server version 4.0
    - ❖ Wireless E-mail
    - ❖ Wireless Calendaring
    - ❖ Wireless Directory lookup
    - ❖ Wireless Automatic software updates
    - ❖ Wireless Provisioning – (No Desktop Manager Required for Macs)
    - ❖ Encrypted PIN to PIN
    - ❖ Remote kill of BlackBerry devices
    - ❖ Sent messages copied to desktop folder
  - Encrypted communications between BlackBerry server and device
  - Supports all BlackBerry licensed devices
- ➢ GoodLink Server (Phase II)
  - Full support for Treo and PocketPC devices using the GoodLink Server
  - Encrypted communications between GoodLink server and device
  - Devices supported at HQ will be determined by the HQ IT&C Division

SharePoint Portal Server 2003

➢ The SharePoint Server Farm can be found at: https://portal.nasa.gov

➢ All SharePoint data resides at NDC in a central database and team websites will be created by the NDC upon request

➢ The maximum single file upload limit is at 75 megabytes (MB)

➢ Team sites and Office integration capabilities:

- Office 2003 delivers full integration
- Office 2004 for Mac does not provide full integration due to lack of ActiveX support

Live Communications Server 2003

➢ Provides secure Enterprise Instant Messaging via Transport Layer Security (TLS/SSL) Certificates

➢ Provides presence awareness among participants and integration with SharePoint Portal Server 2003, Outlook 2003 and Exchange Server 2003

➢ Text chat functionality is the only service of the Messenger client NASA HQ is currently supporting

➢ Available from anywhere to HEMI-only user base

➢ Windows clients only until Mac OS 10.4 is released

➢ Instant Message communications will not be archived

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Windows Desktop Requirements

- ➢ Microsoft Windows XP Service Pack 1 (SP1) or later
- ➢ E-mail and Calendaring: Outlook 2003 or Outlook Web Access (OWA)
- ➢ SharePoint and OWA accessed through web browser
  - Microsoft IE 5.0+ for full functionality using ActiveX
  - Other browsers also supported, with fewer functions
- ➢ LCS IM accessed through Windows Messenger 5.x
- ➢ Entrust 7.x with Express Plug-in for NASA PKI integration
- ➢ For BlackBerry Users: Blackberry Desktop Software 3.6 SP2 or greater
- ➢ Patches:
  - Windows XP Patch: RPC Updates Needed for Exchange Server 2003 update installed. (Q331320_WXP_SP2_x86_ENU.exe is file name)
  - NDC Root Certificate is in the Trusted Root Certification Authorities store on the System
- ➢ (Optional) Intellisync

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Mac Desktop Requirements

- ➢ Max OS X.3 or greater required
- ➢ E-mail and Calendaring accessed through Entourage 2004 (part of Office 2004 for Mac)
- ➢ SharePoint and OWA accessed through any browser
- ➢ No LCS IM access at this time.
  - • Next version of iChat in MacOS 10.4 (Tiger) expected to provide access.
- ➢ Entrust 6.21 will be used for NASA PKI integration
  - • Private keys must be exported from Entrust profile and imported into local keychain.
  - • Certificates must be manually downloaded to local keychain.
  - • X.500 needs to be added as an additional directory service
- ➢ Patches:
  - • NASA certificate for SSL (http://london.arc.nasa.gov)

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Remote Access Features

- ➢ An HQ Laptop will have full access from anywhere
- ➢ Web Access
  - Outlook Web Access (OWA) provides remote E-mail/Calendaring/Directory/Task/Notes access and is accessible anywhere without the need to dial-up to HQ or log onto SNA.
    - ❖ OWA can be accessed by typing in the URL https://webmail.nasa.gov and click on HQ
    - ❖ All client communications are secured via SSL
    - ❖ OWA provides most functions compared to Outlook and Entourage
      - ◼ Look and feel is similar to Outlook 2003
      - ◼ No access to local data stored on hard drive
  - SharePoint access available anywhere via any browser
  - No LCS web access at this time
- ➢ Alternate Mail client using SMTP/S and IMAP/S.
- ➢ Take home kit available for Mac and PC.
  - Full version of Office (+ Messenger for PC)